FIG.1

system configuration

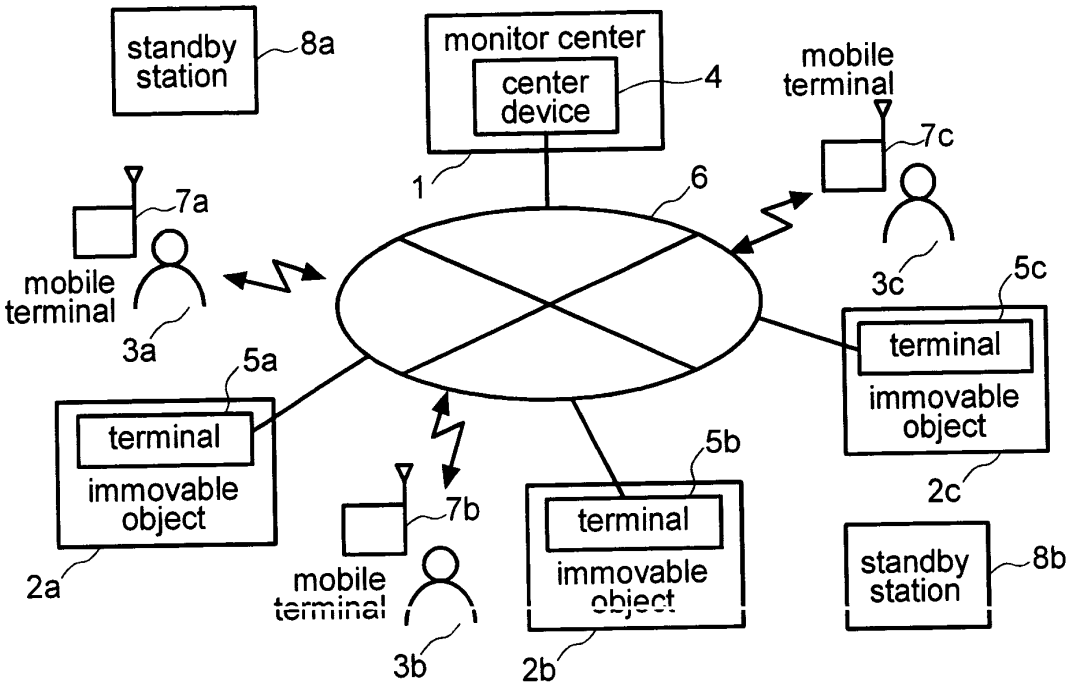


FIG.2

terminal configuration

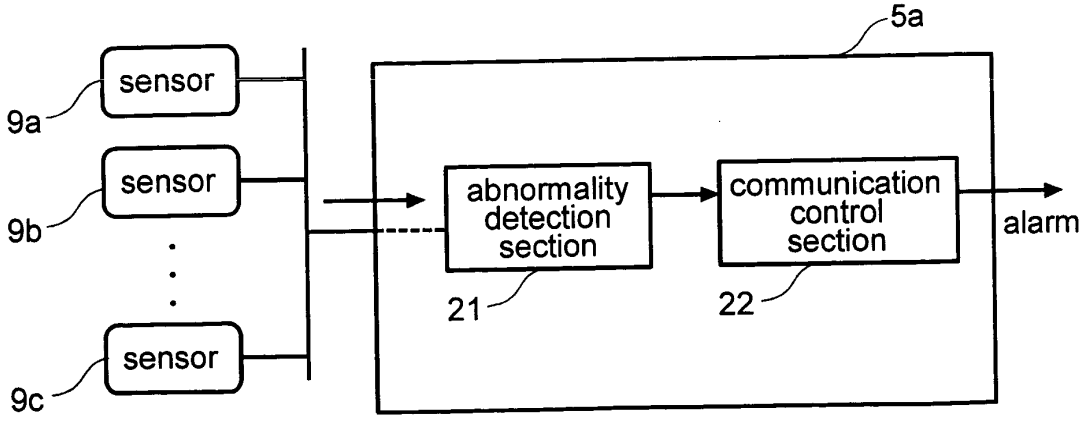


FIG.3

center device configuration

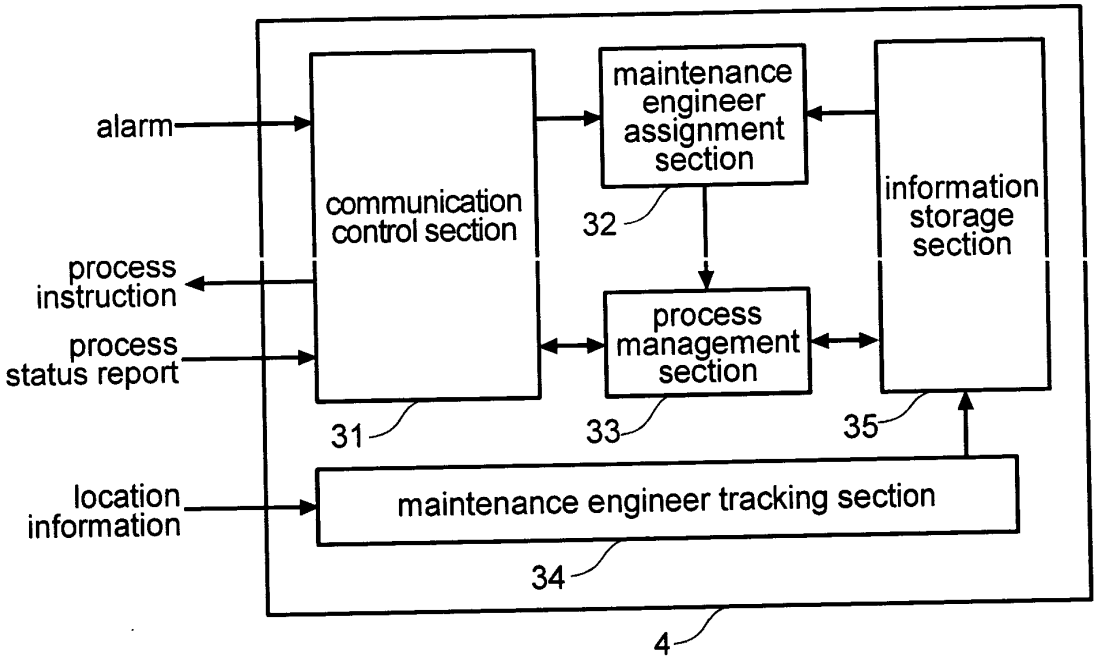


FIG.4

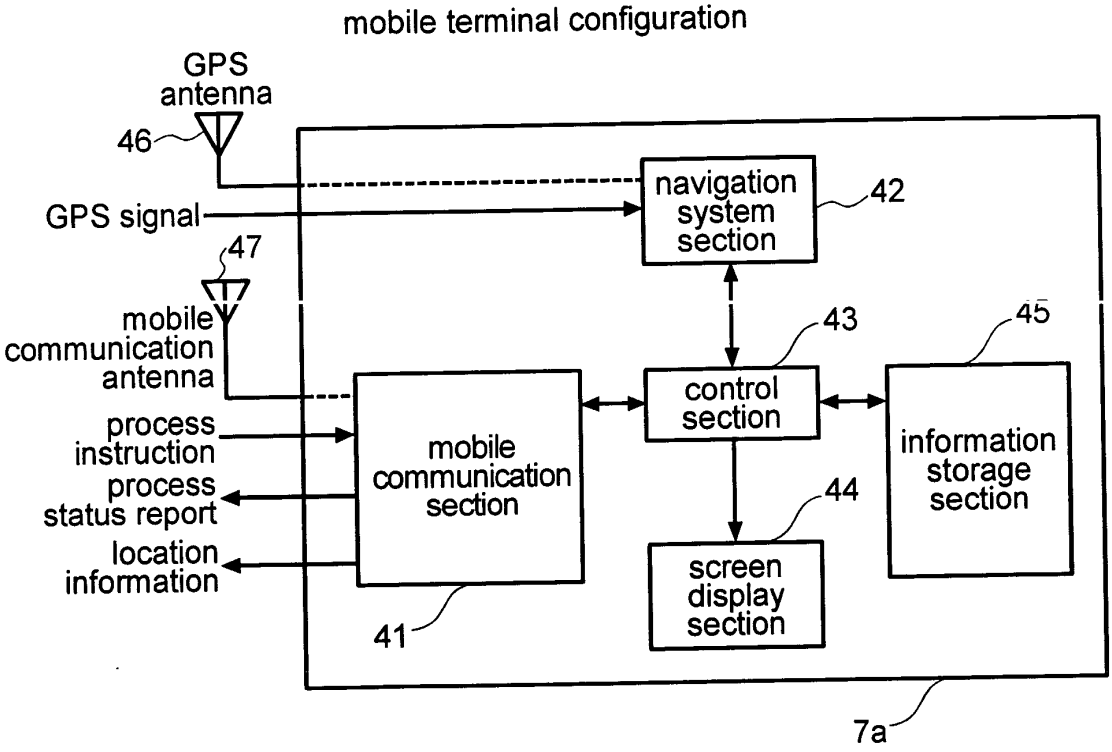

mobile terminal configuration
GPS antenna
46
GPS signal
47
mobile communication antenna
process instruction
process status report
location information
navigation system section
42
43
45
control section
mobile communication section
information storage section
44
screen display section
41
7a

FIG.5

hardware configuration of device

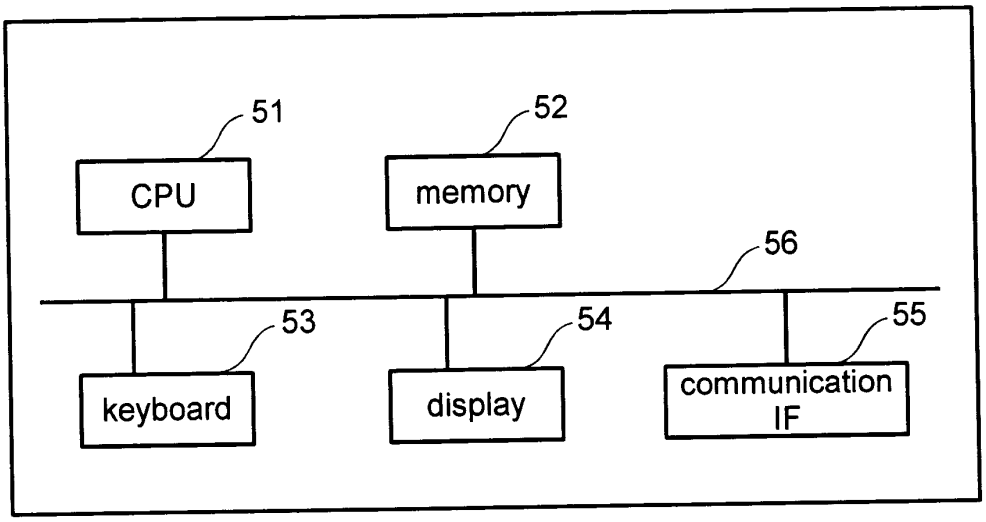


FIG.6

alarm information 60

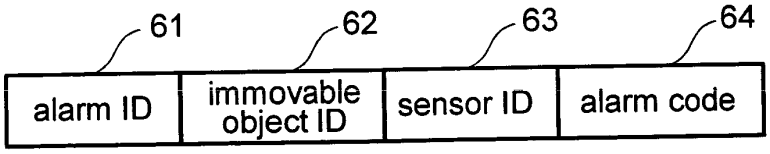


FIG.7

immovable object management information 70

71 immovable object ID	72 immovable object location information	73 key storage information
1	xxx	standby station A
2	yyy	standby station B
3	zzz	maintenance engineer 1

FIG.8

alarm management information 80

81 alarm code	82 key usage information	83 necessary tool information	84 manual, know-how information
1	key is unnecessary	none	operation method for sensor A
2	key is unnecessary	tool A	operation method for sensor B
3	key is necessary	none	operation method for sensor C
4	key is necessary	tools A, B	operation method for sensor D

FIG.9

standby station management information 90

91 name of standby station	92 standby station location information	93 stored tool
standby station A	xxx	the number of tools A: 3
standby station B	yyy	the number of tools A: 5 the number of tools B: 2
standby station C	zzz	the number of tools A: 2 the number of tools C: 1

FIG.10

maintenance engineer management information 100

101 maintenance engineer ID	102 current location of maintenance engineer	103 process status	104 tool information
1	aaa	standby	tool A
2	bbb	processing	tools A, B
3	ccc	moving	none
4	ddd	standby	tools A, C

FIG.11

process management information 110

111 alarm occurrence time	112 alarm ID	113 immovable object ID	114 sensor ID	115 alarm code	116 key location information	117 tool location information	118 maintenance engineer ID	119 arrival time in immovable object	120 process completion time
9:25	1	1	6	4	aaa	—	maintenance engineer A	9:40	9:50
9:40	2	3	2	3	—	—	maintenance engineer B	9:52	—
9:45	3	5	2	2	ccc	ccc	maintenance engineer C	—	—

FIG.12

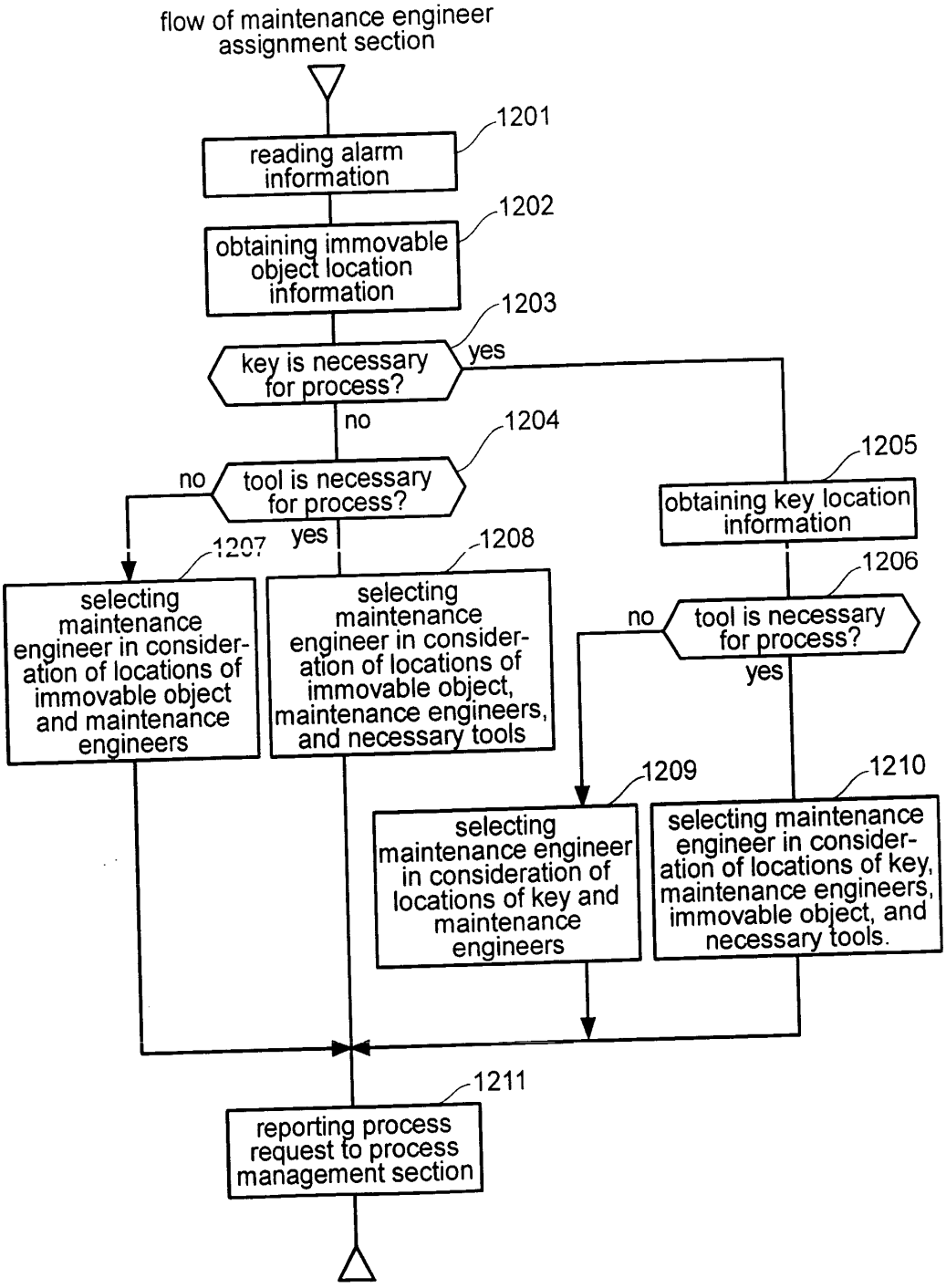

flow of maintenance engineer assignment section
reading alarm information
1201
obtaining immovable object location information
1202
key is necessary for process?
1203
yes
no
tool is necessary for process?
1204
no
yes
obtaining key location information
1205
tool is necessary for process?
1206
no
yes
selecting maintenance engineer in consider-ation of locations of immovable object and maintenance engineers
1207
selecting maintenance engineer in consider-ation of locations of immovable object, maintenance engineers, and necessary tools
1208
selecting maintenance engineer in consideration of locations of key and maintenance engineers
1209
selecting maintenance engineer in consider-ation of locations of key, maintenance engineers, immovable object, and necessary tools.
1210
reporting process request to process management section
1211

FIG.13

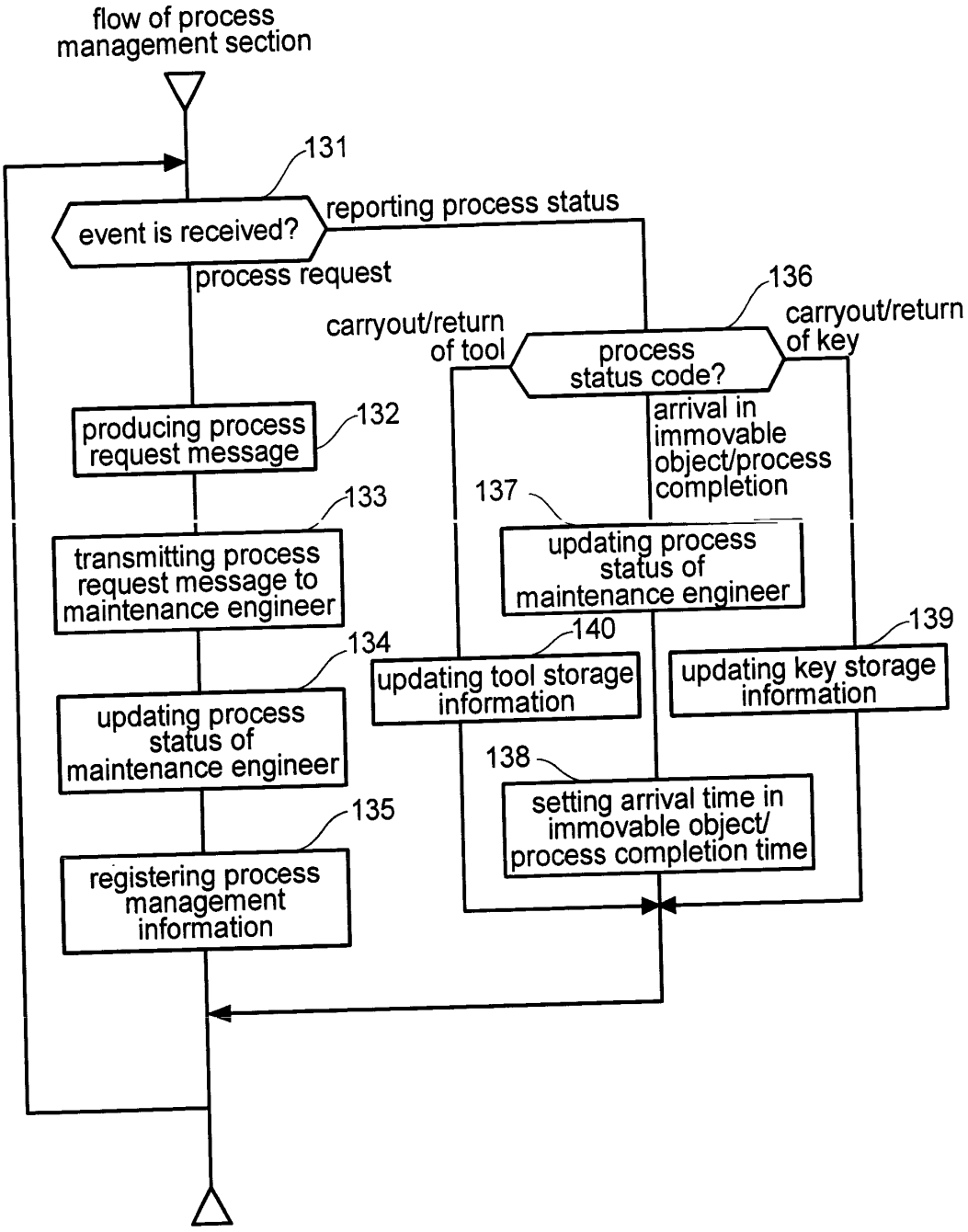

flow of process management section
131
event is received?
reporting process status
process request
136
carryout/return of tool
process status code?
carryout/return of key
producing process request message
132
arrival in immovable object/process completion
137
133
transmitting process request message to maintenance engineer
updating process status of maintenance engineer
140
139
134
updating tool storage information
updating key storage information
updating process status of maintenance engineer
138
setting arrival time in immovable object/ process completion time
135
registering process management information

FIG.14

process request message 1400

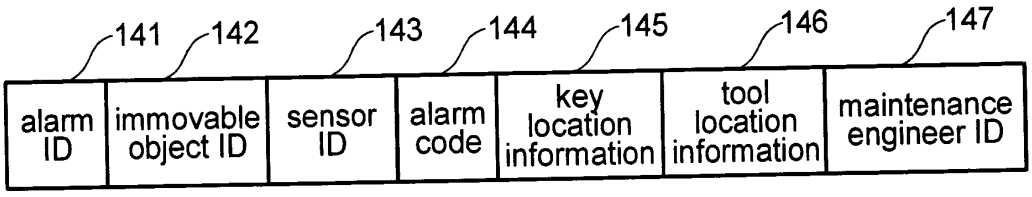


FIG.15

process status report message 150

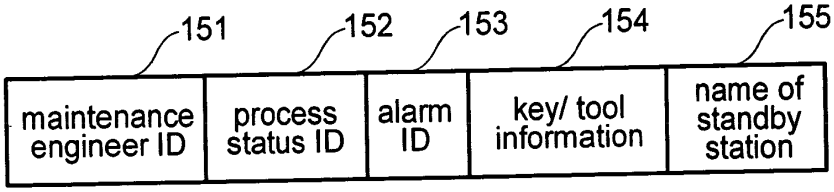
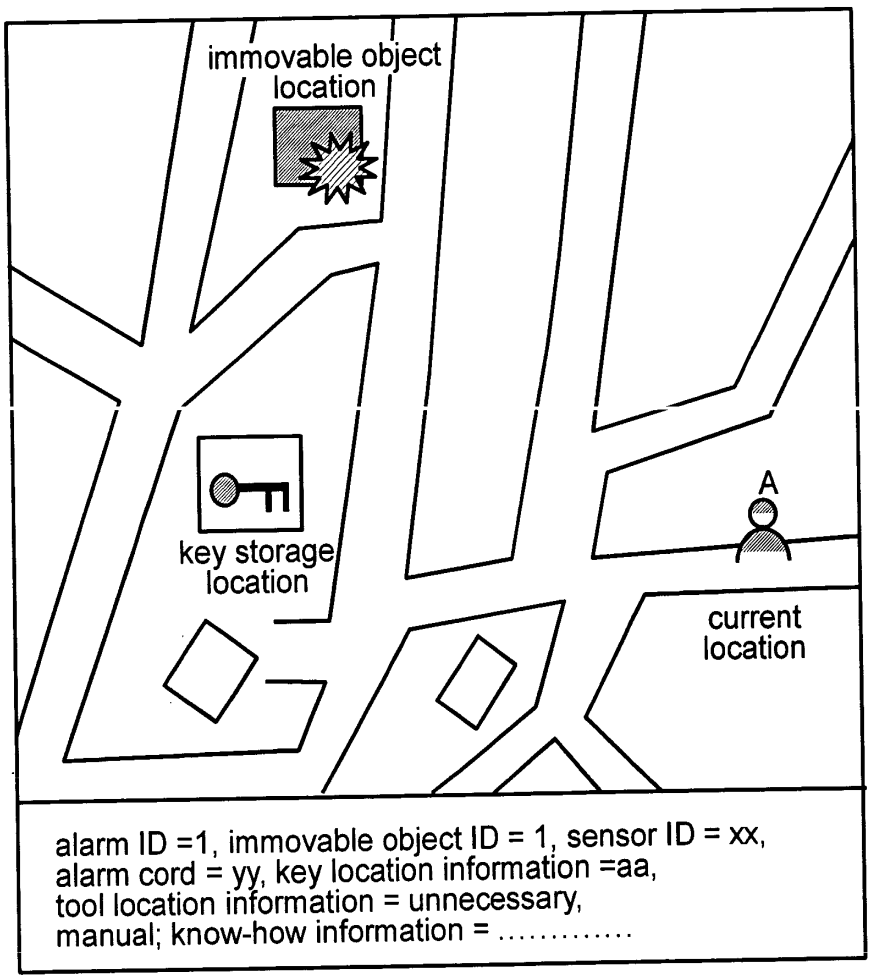


FIG.16

screen of mobile terminal